

-continued

flour mixture of durum and wheat with added starch and soy protein	225
egg white	40
sugar	10

[0030] The mixture is extruded through elliptical ports (0.8 inch by 0.6 inch) and cut into three inch segments. After treatment with superheated steam at 340° C. for 2 minutes, these snack segments are cooled, frozen and packaged for distribution.

[0031] Oven heating is all that is required to make this macaroni snack ready for eating. It may be served with a dip such as salsa.

[0032] The variety of extruded grain snacks is indeed broad in view of the variety of grains ranging from breakfast cereals to rice and pasta, and in further view of added ingredients such as corn kernels, raisins, spices and flavorings. All such grain formulations include egg white as binding agent that on exposure to superheated steam makes the extruded mass coherent and its exposed surface like a non-sticky skin.

[0033] Variations and modifications of the invention will be apparent to those skilled in the art without departing from the spirit or scope of the invention. For example, a minor proportion of chopped nuts may be added to the recipe of Example 2, and grilled ground beef to Example 3.

[0034] Accordingly, only such limitations should be imposed on the invention as are set forth in the appended claims.

What is claimed is:

1. Grain-rich snacks comprising grain and a minor proportion of egg white, and formed by press-forming a pasty mixture of said grain and egg white and by contacting the press-formed snacks with superheated steam to set said egg white as binder of said snacks.

2. The grain-rich snacks of claim 1 wherein the grain is cooked and is selected from the group consisting of grits, oatmeal, pasta and rice.

3. The grain-rich snacks of claim 1 wherein the pasty mixture of grain includes starch and/or flour.

4. The grain-rich snacks of claim 1 wherein the press-forming of the pasty mixture is conducted by extrusion thereof as a rope or ribbon that is cut into said snacks.

5. The grain-rich snacks of claim 4 wherein the grain is cooked and is selected from the group consisting of grits, oatmeal, pasta and rice.

6. The grain-rich snacks of claim 5 wherein the pasty mixture includes starch and/or flour.

7. The grain-rich snacks of claim 2 wherein the press-forming of the pasty mixture is conducted by press-molding.

8. A process of producing grain-rich snacks, which comprises forming a pasty mixture comprising grain and a minor proportion of egg white, press-forming said pasty mixture to yield formed snacks and contacting said formed snacks with superheated steam to set said egg white as binder of said snacks.

9. The process of claim 8 wherein the superheated steam is at a temperature in the range of about 300° to 350° C.

10. The process of claim 9 wherein the grain is cooked and is selected from the group consisting of grits, oatmeal, pasta and rice.

11. The process of claim 10 wherein the contact of superheated steam with the formed snacks is not longer than about 2 minutes.

12. The process of claim 8 wherein contacting the formed snacks with superheated steam is conducted by moving said formed snacks on a metal reticular conveyor belt while opposed jets of said steam impinge on said formed snacks from above and below said belt.

13. The process of claim 12 wherein the grain is cooked and is selected from the group consisting of grits, oatmeal, pasta and rice.

14. The process of claim 13 wherein the superheated steam is at a temperature in the range of about 300° to 350° C. and is applied for not more than about 2 minutes.

15. The process of claim 12 wherein the grain is cooked and is selected from the group consisting of grits, oatmeal, pasta and rice, and the press-forming of the pasty mixture is conducted by extrusion thereof as a rope or ribbon that is cut into said snacks.

16. The process of claim 15 wherein the superheated steam is at a temperature in the range of about 300° to 350° C., and contacts the formed snacks for not more than about 2 minutes.

17. The process of claim 16 wherein the snacks after being contacted with superheated steam are frozen by spraying with liquid carbon dioxide or nitrogen.

18. The process of claim 13 wherein the snacks after being contacted with superheated steam are frozen by spraying with liquid carbon dioxide or nitrogen.

19. The process of claim 12 wherein the grain is cooked and is selected from the group consisting of grits, oatmeal, pasta and rice, and the press-forming of the pasty mixture is conducted by press-molding said mixture.

20. The process of claim 19 wherein the superheated steam is at a temperature in the range of about 300° to 350° C. and contacts the formed snacks for not more than about 2 minutes.

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